

Amendments to the Claims

The following listing of claims replaces all prior versions of the claims and all prior listings of the claims in the present application.

1-57. (canceled)

58. (new) A process for producing a tyre, comprising:

feeding an elastomeric composition to an extruder;

forming, by extrusion, the elastomeric composition as a continuous elongated element;

and

depositing the elongated element on a support in a plurality of coils to make up a structural element of the tyre;

wherein forming the elastomeric composition is carried out at a shear rate of at least 1000 sec^{-1} , and

wherein the elastomeric composition comprises at least one elongational-viscosity-reducing additive in an amount so that an elongational viscosity of the elastomeric composition, measured at 120° C and at the shear rate of at least 1000 sec^{-1} , is at least 10% less than the elongational viscosity, measured at 120° C and at the shear rate of at least 1000 sec^{-1} , of the elastomeric composition without the at least one elongational-viscosity-reducing additive.

59. (new) The process of claim 58, wherein the elongational viscosity of the elastomeric composition, measured at 120° C and at the shear rate of at least 1000 sec^{-1} , is at least 15% less

than the elongational viscosity, measured at 120° C and at the shear rate of at least 1000 sec⁻¹, of the elastomeric composition without the at least one elongational-viscosity-reducing additive.

60. (new) The process of claim 58, wherein the elongational viscosity of the elastomeric composition, measured at 120° C and at the shear rate of at least 1000 sec⁻¹, is at least 50% of the elongational viscosity, measured at 120° C and at the shear rate of at least 1000 sec⁻¹, of the elastomeric composition without the at least one elongational-viscosity-reducing additive.

61. (new) The process of claim 58, wherein the support is a rotating support.

62. (new) The process of claim 58, wherein the support is a rigid support.

63. (new) The process of claim 62, wherein the rigid support comprises a toroidal shape.

64. (new) The process of claim 58, wherein the process is carried out with a drawing ratio (K) higher than 1:1.

65. (new) The process of claim 58, wherein the process is carried out with a drawing ratio (K) higher than 1.5:1.

66. (new) The process of claim 58, wherein the shear rate is between 2000 sec⁻¹ and 8000 sec⁻¹.

67. (new) The process of claim 58, wherein the shear rate is between 4000 sec^{-1} and 6000 sec^{-1} .

68. (new) The process of claim 58, wherein the at least one elongational-viscosity-reducing additive comprises one or more:

glycidyl esters of an α -branched carboxylic acid containing from 6 to 22 carbon atoms;

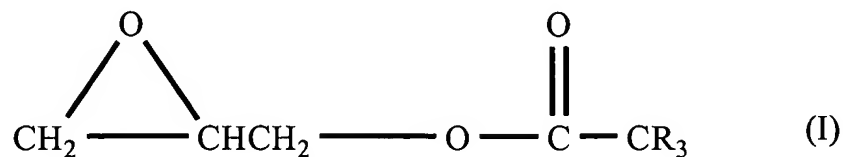
polyolefin waxes;

copolymers of ethylene with at least one aliphatic α -olefin and, optionally, a polyene;

thermoplastic polymers having a main hydrocarbon chain to which hydrophilic groups are linked; and/or

fatty acid esters derived from at least one saturated or unsaturated fatty acid having from 8 to 24 carbon atoms and at least one polyhydric alcohol having from 2 to 6 carbon atoms.

69. (new) The process of claim 68, wherein the one or more glycidyl esters are selected from those having the following general formula (I):



wherein the R groups, equal or different from each other, represent hydrogen or linear or branched aliphatic groups, and

wherein the R groups have a total number of carbon atoms from 6 to 18.

70. (new) The process of claim 68, wherein the one or more polyolefin waxes are selected from homopolymers of an α -olefin or copolymers of at least two α -olefins such as ethylene, propylene, 1-butene, 1-hexene, 4-methyl-1-pentene, 1-decene, or mixtures thereof, having an intrinsic viscosity (η), measured at 135° C in decalin, between 0.03 dl/g to 1.0 dl/g.

71. (new) The process of claim 70, wherein the one or more polyolefin waxes have a molecular weight distribution (MWD) index less than 5.

72. (new) The process of claim 70, wherein the one or more polyolefin waxes have a number-average molecular weight less than 4000.

73. (new) The process of claim 70, wherein the one or more polyolefin waxes have a melting point (T_m) less than 140° C.

74. (new) The process of claim 70, wherein the one or more polyolefin waxes have a viscosity at 140° C, measured according to ASTM Standard D3236-88, less than 160 cps.

75. (new) The process of claim 70, wherein the one or more polyolefin waxes comprise polyethylene wax or ethylene α -olefin copolymer waxes.

76. (new) The process of claim 68, wherein the one or more copolymers of ethylene have a molecular weight distribution (MWD) index less than 5, and
wherein the one or more copolymers of ethylene have a melting enthalpy (ΔH_m) not less than 30 J/g.

77. (new) The process of claim 76, wherein in the one or more copolymers of ethylene, the at least one aliphatic α -olefin is an olefin of formula $\text{CH}_2=\text{CH-R}$, and
wherein R represents a linear or branched alkyl group containing from 1 to 12 carbon atoms.

78. (new) The process of claim 77, wherein the at least one aliphatic α -olefin comprises one or more of propylene, 1-butene, isobutylene, 1-pentene, 4-methyl-1-pentene, 1-hexene, 1-octene, and 1-dodecene.

79. (new) The process of claim 77, wherein the aliphatic α -olefin comprises 1-octene.

80. (new) The process of claim 76, wherein the polyene is a conjugated or non-conjugated diene, triene, or tetraene.

81. (new) The process of claim 76, wherein the polyene is a diene.

82. (new) The process of claim 76, wherein the one or more copolymers of ethylene have a density between 0.86 g/cm^3 and 0.93 g/cm^3 .

83. (new) The process of claim 76, wherein the one or more copolymers of ethylene have a Melt Flow Index (MFI), measured according to ASTM Standard D1230-00, between 0.1 g/10 min and 35 g/10 min .

84. (new) The process of claim 76, wherein the one or more copolymers of ethylene have a melting point not less than 30° C .

85. (new) The process of claim 68, wherein in the one or more thermoplastic polymers, the hydrophilic groups comprise one or more:

hydroxyl groups (-OH);

carboxylic groups (-COOH), possibly at least partially in the salt form;

ester groups (-COOR, wherein R = alkyl or hydroxyalkyl);

amide groups (-CONH₂); and/or

sulfonic groups (-SO₃H), possibly at least partially in the salt form.

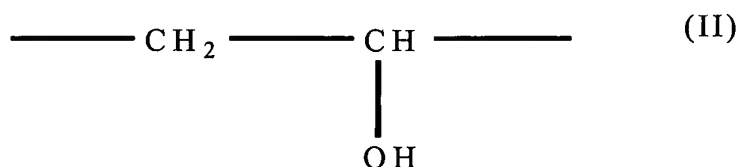
86. (new) The process of claim 85, wherein the one or more thermoplastic polymers are capable of absorbing at least 0.1% by weight of water based on polymer weight after a 24-hour

exposure in an environment having a 50% relative humidity at the temperature of 24° C
(measured according to ASTM Standard D570).

87. (new) The process of claim 85, wherein the one or more thermoplastic polymers have a melting temperature lower than 230° C.

88. (new) The process of claim 85, wherein the one or more thermoplastic polymers comprise one or more of: polyacrylic acid, polymethacrylic acid, polyhydroxy-alkylacrylate, polyalkylacrylate, polyacrylamide, acrylamide/acrylic acid copolymers, polyvinylalcohol, polyvinylacetate, vinylalcohol/vinylacetate copolymers, ethylene/vinylacetate copolymers, ethylene/vinylalcohol copolymers, ethylene/vinylalcohol/vinylacetate terpolymers, polyvinylsulfonic acid, and polystyrene sulfonate.

89. (new) The process of claim 85, wherein the one or more thermoplastic polymers comprise repeating units having a following formula (II):



with a random or block distribution along the chain.

90. (new) The process of claim 85, wherein the one or more thermoplastic polymers are selected from:

vinylalcohol polymers obtained by hydrolysis of polyvinylacetate, with a hydrolysis degree comprised between 50 mol% and 100 mol%; and

ethylene/vinylalcohol copolymers having a content of ethylene units comprised between 20 mol% and 60 mol%.

91. (new) The process of claim 68, wherein in the one or more fatty acid esters, the at least one saturated fatty acid comprises one or more of: capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, 12-hydroxystearic acid, and behenic acid.

92. (new) The process of claim 68, wherein in the one or more fatty acid esters, the at least one saturated fatty acid comprises stearic acid.

93. (new) The process of claim 68, wherein in the one or more fatty acid esters, the at least one unsaturated fatty acid comprises one or more of: undecylenic acid, oleic acid, erucic acid, sorbic acid, linoleic acid, linolenic acid, arachidonic acid, propiolic acid, and stearolic acid.

94. (new) The process of claim 68, wherein in the one or more fatty acid esters, the at least one polyhydric alcohol comprises one or more of: ethylene glycol, diethylene glycol, triethylene glycol, propylene glycol, dipropylene glycol, butanediol, pentanediol, hexanediol, glycerin, diglycerin, triglycerin, pentaerythritol, sorbitan, sorbitol, and mannitol.

95. (new) The process of claim 68, wherein the at least one polyhydric alcohol comprises glycerine.

96. (new) The process of claim 58, wherein the amount of the at least one elongational-viscosity-reducing additive is between 0.1 phr and 10 phr.

97. (new) The process of claim 58, wherein the amount of the at least one elongational-viscosity-reducing additive is between 2 phr to 5 phr.

98. (new) The process of claim 58, wherein the elastomeric composition comprises at least one diene elastomeric polymer.

99. (new) The process of claim 98, wherein the at least one diene elastomeric polymer has a glass transition temperature (T_g) below 20° C.

100. (new) The process of claim 98, wherein the at least one diene elastomeric polymer comprises one or more of: cis-1,4-polyisoprene; 3,4-polyisoprene; polybutadiene; optionally halogenated isoprene/isobutene copolymers; 1,3-butadiene/acrylonitrile copolymers; styrene/1,3-butadiene copolymers; styrene/isoprene/1,3-butadiene copolymers; and styrene/1,3-butadiene/acrylonitrile copolymers.

101. (new) The process of claim 58, wherein the elastomeric composition comprises at least one elastomeric polymer of one or more monoolefins with an olefinic comonomer or derivatives thereof.

102. (new) The process of claim 101, wherein the at least one elastomeric polymer comprises one or more of: ethylene/propylene copolymers (EPR) or ethylene/propylene/diene copolymers (EPDM); polyisobutene; butyl rubbers; and halobutyl rubbers.

103. (new) The process of claim 58, wherein the elastomeric composition comprises:
at least one reinforcing filler in an amount between 0.1 phr and 120 phr.

104. (new) The process of claim 103, wherein the at least one reinforcing filler comprises carbon black.

105. (new) The process of claim 103, wherein the at least one reinforcing filler comprises silica.

106. (new) The process of claim 105, wherein the elastomeric composition further comprises:
at least one coupling agent.

107. (new) A method for reducing elongational viscosity of an elastomeric composition, comprising:

adding at least one elongational-viscosity-reducing additive to the elastomeric composition in an amount so that the elongational viscosity of the elastomeric composition, measured at 120° C and at a shear rate of at least 1000 sec⁻¹, is at least 10% less than the elongational viscosity, measured at 120° C and at the shear rate of at least 1000 sec⁻¹, of the elastomeric composition without the at least one elongational-viscosity-reducing additive.

108. (new) The method of claim 107, wherein the elongational viscosity of the elastomeric composition, measured at 120° C and at the shear rate of at least 1000 sec⁻¹, is at least 15% less than the elongational viscosity, measured at 120° C and at the shear rate of at least 1000 sec⁻¹, of the elastomeric composition without the at least one elongational-viscosity-reducing additive.

109. (new) The method of claim 107, wherein the elongational viscosity of the elastomeric composition, measured at 120° C and at the shear rate of at least 1000 sec⁻¹, is at least 50% of the elongational viscosity, measured at 120° C and at the shear rate of at least 1000 sec⁻¹, of the elastomeric composition without the at least one elongational-viscosity-reducing additive.

110. (new) The method of claim 107, wherein the at least one elongational-viscosity-reducing additive comprises one or more:

glycidyl esters of an α -branched carboxylic acid containing from 6 to 22 carbon atoms;
polyolefin waxes;
copolymers of ethylene with at least one aliphatic α -olefin and, optionally, a polyene;
thermoplastic polymers having a main hydrocarbon chain to which hydrophilic groups
are linked; and/or

fatty acid esters derived from at least one saturated or unsaturated fatty acid having from
8 to 24 carbon atoms and at least one polyhydric alcohol having from 2 to 6 carbon atoms.

111. (new) The method of claim 107, wherein the elastomeric composition comprises at
least one diene elastomeric polymer having a glass transition temperature (T_g) below 20° C.

112. (new) The method of claim 107, wherein the elastomeric composition comprises at
least one elastomeric polymer of one or more monoolefins with an olefinic comonomer or
derivatives thereof, and

wherein the at least one elastomeric polymer comprises one or more of:

ethylene/propylene copolymers (EPR) or ethylene/propylene/diene copolymers
(EPDM);
polyisobutene;
butyl rubbers; and
halobutyl rubbers.

113. (new) The method of claim 107, wherein the elastomeric composition comprises:

at least one reinforcing filler in an amount between 0.1 phr and 120 phr.

114. (new) The method of claim 113, wherein the at least one reinforcing filler comprises one or more of carbon black, silica, and at least one coupling agent.